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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/609,079 | 06/27/2003 | Timothy J. Parker | 3239P106 | 7575 |

8791 7590 02/20/2008

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| EXAMINER | |
|---|---|
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| ART UNIT | PAPER NUMBER |
|---|---|
| 2836 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 02/20/2008 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/609,079 | PARKER ET AL. | |
| | Examiner | Art Unit | |
| | DANIEL CAVALLARI | 2836 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *28 November 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-3,11,12,15,16,18-23,25-28,32 and 33* is/are pending in the application.

4a) Of the above claim(s) *4-10,13,14,17,20,24,29-31 and 34* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,11,12,15,16,18-23,25-28,32 and 33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11/28/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☒ Other: *IEEE standard 802.3af*.

## DETAILED ACTION

The Examiner acknowledges the amendments submitted 11/28/2007. The amendments to claim(s) 1, 2, 12, 15, 19 are 25 are accepted.

The previously made 112 rejection of claim 12 has been withdrawn in view of the amendment.

### *Response to Arguments*

Applicant's arguments filed 11/28/2007 have been fully considered but they are not persuasive.

Applicant argues:

> In contrast, Elkayam is directed to a daughter card/motherboard implementation and does not describe the connector module with embedded PoE circuitry as claimed. In contrast, the daughter card (Ethernet switch board 14) features Ethemet connectors (24) that clearly do not feature PoE embedded functionality. In fact, sub-circuits (58) perform such functionality and Power-over-LAN support circuitry (55) is illustrated separate from the connectors (24). See FIG. 2 of Elkavam and paragraph [0076].

1. Applicant appears to argue that Elkayam teaches a daughter card/motherboard configuration. Albeit true, the applicant fails to provide how such a configuration fails to meet the claimed limitations and the rejection set forth by the Examiner.

2. Applicant appears to argue that the "Ethernet connectors (24) that clearly do not feature PoE embedded functionality". The Examiner points out that Elkayam teaches "Circuitry 56 comprises one or more sub-circuits 58, preferably three sub-circuits, which utilize 48V level in order to generate output power and levels **for**

**connectrs 24 that are compliant with standard 802.3af** (See Paragraph 76). Standard 802.3af is the PoE standard and has been provided to applicant. Therefore, all circuitry of Elkayam contains PoE functionality seeing as the device is compliant with industry known standards for PoE as provided by IEEE 802.3af.

3. Applicant argues "In fact, sub-circuits (58) perform such functionality and Power-over-LAN support circuitry (55) is illustrated separate from the connectors (24)" however Claim 1 reads "circuitry **coupled to the jack** and **embedded into the connector module** (note the claim states the circuitry embedded into the connector module and not the connectors themselves, as applicant argues), the circuitry configures to perform Power-over-Ethernet (PoE) operations by supplying power through the jack." The Examiner suggests that applicant put the limitations in the claim if they desire them to be considered.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 11, 12, 15, 18, 25-28, 32, & 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Elkayam et al. (US 2003/0099076 A1).

In regard to Claims 1 & 2

A connector module (11) being a component mounted on a circuit board (read on by switch board 14, See Figure 2) comprising:

- At least one Ethernet jack (24) adapted for coupling to a link (34) (See Figure 1 & Paragraph 69-72).
- Circuitry (56) coupled to the jack (24) and embedded into the connector module (11) (See Figure 2) configured to perform power-over-Ethernet operations for supplying power through the jack (See Figure 2 & Paragraph 69 & 76) [Read on by IEEE 802.3af].

The Examine further points out that the recitation "being a component mounted on a circuit board" does not have patentable weight because it has been held that a preamble is denied the effect of a limitations where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. Kropa v. Robie, 88 USPQ 478 (CCPA 1951).

In regard to Claim 11

- The connector module being implemented on the circuit board (14, See Figure 2) within a switch device, read on by the switching hub (See Paragraph 32) including a housing (See Paragraph 32 & Figure 1 which shows the chassis (16) and Ethernet circuit board (14)) which encloses the connector module with at

least one jack (24) accessible from a side of the housing for coupling the link (See Figure 1).

In regard to Claim 12

- The connector module adapted to receive DC voltage (See Figure 1 & Paragraph 18) and transmit power to at least one Ethernet jack (24) of the connector module (See Paragraphs 22, 71, & 76) [using IEEE 802.3af].

In regard to Claims 15 & 18

A connector module (11, Figure 2) being a component mounted on a circuit board placed in a switching device (switching hub, 15, Figure 1) comprising:

- A plurality of jacks (24) positioned along a side of the switching device (15) (See Figure 1) adapted for coupling to a link (34) (See Figure 1 & Paragraph 69-72).
- Circuitry (56) embedded within the component (11) coupled to the plurality of Ethernet jacks (24) , to perform power-over-Ethernet operations by supplying power through each of the plurality of Ethernet jacks, the circuitry comprises a filtering circuitry (99, See Paragraph 83) and POE circuitry, read on by the output power control circuits (58) which are used to vary the amount of power supplied over any of the plurality of Ethernet jacks (24) (See Figures 2, 3, & Table I & Paragraphs 76, 79, & 80) and the PoE circuitry (58) attached to the filtering circuitry (99) (See Figure 4).
- The POE circuitry (58) being coupled to the transformer (See Paragraph 75) [the Examiner notes that the connecters are described as coupled to the transformer,

which are coupled to the support circuitry (55) which are coupled to the power distribution and control circuitry (56) which are coupled to the output power control (58) (See Paragraph 75)].

The Examine further points out that the recitation "being a component mounted on a circuit board" does not have patentable weight because it has been held that a preamble is denied the effect of a limitations where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. Kropa v. Robie, 88 USPQ 478 (CCPA 1951).

In regard to Claim 25

A switching device including a connector module (11) being a component mounted on a circuit board (14) implemented within the switching device (12) the switching device comprising:

- A housing [See Paragraph 32 & Figure 1 which shows the chassis (16)].
- A connector module (11) being a component mounted on a circuit board, the component (11) including at least one jack (24, 55) (See Figure 1) [wherein the component (11) includes the jack via connector (40), See Figure 2] formed in the housing and power over Ethernet circuitry (56) contained within the housing and directly coupled to the at least one jack (24, 55) (See Figure 2).

In regard to Claim 26

- Wherein the connector module is an Ethernet jack module (See Paragraph 69).

In regard to Claim 27

- Wherein the housing further includes an output (24) to supply power to a first connector module (30) neighboring the connector module (15) (See Figure 1).

In regard to Claim 28

- Wherein the housing further includes an input to receive power from a second connector module (36) neighboring the connector module (15) so as to form a cascading connection between the first neighboring connector module (36) and the second neighboring connector module (30) (See Figure 1).

In regard to Claim 32

Wherein the housing comprises:

- See arguments above for claims 27 & 28.
- A first input (40) adapted to receive power from a first neighboring connector module (51) and a first output (24) adapted to provide power to a second neighboring connector module (See Figure 2).

In regard to Claim 33

Wherein the housing further comprises a cascade serial communication interface (42, See Figure 2 & Paragraph 72) adapted for coupling to a serial interface of the first neighboring connector module (51)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elkayam et al. & Binder (US 2005/0047431).

Incorporating all arguments above of the connector module taught by Elkayam, Elkayam teaches connectors used to connect to computer devices (See Figure 2 & Paragraph 69) but fails to explicitly teach the type of connector (24) used.

Binder teaches a LAN outlet with POE capability (See Claim 47) in which an RJ-45 type connector is used (See Paragraphs 5 & 26).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the RJ-45 type connector as the specific connector (24) in the invention of Elkayam. The motivation would have been to use a specific connector well known and used in the industry (See Binder, Paragraph 26).

Claims 16 rejected under 35 U.S.C. 103(a) as being unpatentable over Elkayam et al. & Pannell et al. (US 6,977,507)

Incorporating all arguments above of the connector module taught by Elkayam, Elkayam fails to teach the use of LED indicators for the status indication of the jacks.

Pannell et al. (hereinafter referred to as Pannell) teaches a network device (300) with a plurality of RJ-45 jacks (See Column 8, Lines 55-61) and the status of the jacks are displayed using LED's in which each jack has a corresponding LED (See Column 8, Line 62 to Column 9, Line 10) and the corresponding LED operates in a first state when the link is disconnected and a second state when the link is coupled.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the LED display taught by Pannell in which to indicate the jack status of the invention of Elkayam. The motivation would have been to provide a visual means of the status of the devices.

Claims 19, & 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elkayam et al.

In regard to Claim 19

A Power-Over-Ethernet- (POE) circuit adapted for controlling power supplied over a plurality of Ethernet jacks, the PoE circuit comprising:

- A plurality of voltage sensing contacts (read on by the Ethernet jacks 24, See Figure 1 & Paragraphs 76 & 88) each to detect whether a powered device is

coupled to an Ethernet jack of the plurality of Ethernet jacks corresponding to the voltage sensing contact [The Examiner notes that Elkayam teaches detecting whether a device is connected using voltage sensing contacts ((24) which transmit a signal "signature" to identify when a powered device is connected (Paragraph 76) and to prioritize the plurality of Ethernet jacks (read on by determining if the connected device exceeds set power limits, See Paragraph 88).

- A first contact (read on by AC/DC In plug of Figure 1) to receive a predetermined direct current (DC) voltage from a power supply (See Figure 1).
- A first interface (read on by control and communication circuit 132, Figure 1) to receive control information for managing power transmissions by the PoE circuit embedded in the component (56) including the plurality of Ethernet Jacks (24) (including by means of connector 40, See Figure 2) (See Paragraph 88).
- A second serial interface (read on by control and communication circuit 132, Figure 1) adapted for coupling to a first serial interface of a neighboring PoE circuit [The Examiner notes that there are a plurality of output power controllers (See Figure 2 & Paragraph 76) which are subsequently coupled together via the board (56).

Elkayam teaches a first and second interface (132) but fails to explicitly teach the connection of the interface. Elkayam further teaches a serial interface provided between the switch board (14) and main power supply board (11) (See Paragraph 72).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the serial communication as taught between the switch board ad main supply board with the control and communication circuit (132). The motivation would have been to reduce components and circuit complexity by requiring fewer pins and wires needed with serial communication which is a well known standard communication protocol used in the art.

The Examine further points out that the recitations in the preamble do not have patentable weight because it has been held that a preamble is denied the effect of a limitations where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. Kropa v. Robie, 88 USPQ 478 (CCPA 1951).

Elkayam further teaches:

In regard to Claim 21

- A plurality of contacts (read on by Ethernet connectors (24, Figure 1) each adapted for coupling to one of a plurality of switches (80, See Figure 4) for controlling the amount of current flowing into a powered device coupled to one of the plurality of Ethernet jacks (See Paragraph 88), an interruption of current flow into the powered device causes no power to be transferred to the powered device from the one of the plurality of Ethernet jacks [The examiner notes that if

the input power to the Ethernet is disconnected (interrupted) then no power is supplied to the connected devices, See Figure 1].

In regard to Claim 22

- A second contact (read on by the power connection of 34 to power supply 52 (See Figure 2) to receive a logic signal (voltage level) from the power supply to indicate whether the power supply is working properly [The Examiner notes the voltage of the input power represents a logic signal as this signal is monitored and causes the device to switch to backup power if under a certain threshold (See Paragraph 73)].

In regard to Claim 23

- A second contact (read on by the power connection of 34 to power supply 52 (See Figure 2) that when placed in a predetermined logic state (ie. above a predetermined voltage level) indicates to the neighboring PoE circuit that the power supply is working properly [The Examiner notes the voltage of the input power represents a logic signal as this signal is monitored and causes the device to switch to backup power if under a certain threshold (See Paragraph 73)].

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Cavallari whose telephone number is 571-272-8541. The examiner can normally be reached on Monday-Friday 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (571)272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Sherry/
Supervisory Patent Examiner, Art Unit 2836

DJC

February 12, 2008